CONFECTIONARY PRODUCT AND A PROCESS FOR PRODUCING THE SAME

This is a continuation of application Ser. No. 012,511, filed Feb. 9, 1987, which was abandoned upon the filing hereof.

BACKGROUND OF THE INVENTION

(a) Field of the Invention

The present invention relates to a confectionery product and to a process for producing the same. In particular, the invention relates to a diet bar for use as part of a low calorie diet, especially a very low calorie diet.

(b) Description of the Prior Art

In British Specification No. 1,253,300 there is disclosed a method for sweetening foodstuffs. The disclosed method comprises incorporating lactitol into the foodstuffs so that they have an increased sweetness without a consequent increase in calorific value. Lactitol as used in the earlier invention is a reduction product of lactose having no energy value as food but which can afford sweetness and body to a food product. In the earlier specification the specific Examples show various food recipes incorporating lactitol and various foodstuffs, including those comprising protein. Thus, there are specific Examples of a carbonated drink, ice candy, sponge cake and condensed milk.

Furthermore, in British Specification No. 1,262,842 there is disclosed an ingredient for use in dietetic food compositions which will impart physical properties to the food compositions similar to the properties of natural foods which normally contain sugars, without adding substantial nutritive value to the food. The additive is defined as a mixture of polyglucoses in which each molecule has a structure wherein the 1,6-linkage predominates, and containing from 5 to 20% by weight of food-acceptable polyol chemically bonded thereto, said polyglucoses being soluble in water with substantial completeness and having a number average molecular weight between 1,500 and 18,000 and containing from 0.5 to 5 mole percent of polycarboxylic acid ester groupings with polycarboxylic acids as defined and used as a polymerization activator. Again, the specific Examples give various recipes for foodstuffs containing said mixture including cake, candy, ice cream etc. Similar non-nutritive carbohydrate substitutes are disclosed in related U.S. Specification Nos. 3,766,165 and 3,876,794.

Additionally, in British Specification No. 1,317,746 there is disclosed a new sweetener which is a sugar alcohol mixture consisting mainly of maltitol and maltotriitol. The sweetener has an improved and strong sweetness and a viscosity less than starch syrup, which is relatively freely controllable, and is produced by a process comprising hydrogenating a saccharification product obtained by treating a liquified starch solution with alpha-1,6-glucosidase and beta-amylase. Once again, the earlier disclosure includes specific Examples directed to various foods including cakes and condensed milk.

In International Publication No. WO 80/02226 there is disclosed a dry nutritional food composition adapted for rapid dispersion in water. The composition comprises protein material providing a total protein content of between about 25 and 50% by weight, carbohydrate providing a total carbohydrate content of between about 20 and 50% by weight, lipids providing a total lipid content of between about 5 and 10% by weight, between about 0.4 and 5.0% by weight of non-degradable vegetable fibre consisting of cellulose gum and cellulose gel in the form of finely divided microcrystalline cellulose, and flavouring agents in an amount of about 1% by weight along with vitamins and minerals. The said nutritional food composition when mixed with water being readily dispersible and forming a highly palatable liquid composition which contains sufficient bulk to vaoid discomfort between meals when used as a complete meal replacement. In one aspect the earlier composition is one wherein a serving unit of about 62 grams provides about 50% of the recommended daily requirement of protein, about 45% of the minimum recommended daily requirement of essential vitamins, about 250 calories, and has a combined content of protein, carbohydrate, fat and vegetable fibre which satisfies the hunger of an individual when used as a complete meal replacement.

Also, In European Specification No. 0,127,287 A1 there is disclosed a ready-to-eat guar gum snack food bar for reducing insulin and permitting smooth blood sugar fluctuations for a Type II diabetic. The ready-to-eat guar gum bar is high in carbohydrates, low in fat and high in fibre (guar gum). In general, the liquid components of the bar are blended together, guar gum is then added to the blended liquid and mixed until a homogeneous mixture results. The solids are mixed into the homogeneous mixture and the resulting composition is extruded at room temperature. The ready-to-eat bar has a low moisture content which helps prevent microbial growth and which aids in achieving a stable shelf life.

In one disclosed aspect the food bar of the earlier invention contains on a percentage by weight basis on the total weight of the bar: carbohydrates approximately 50 to 75%, proteins approximately 10 to 15%, fats approximately 8 to 15%, guar gum approximately 8 to 12% and moisture of 8 to 12%. Furthermore, it is said to have been found that 30 g of guar gum (daily) and 195 to 220 g of carbohydrate (daily) satisfactorily meet all the fibre/carbohydrate requirements of a Type II diabetic.

It is clear from the earlier disclosure that the disclosed bar is designed for a very specific dietary purpose related to the treatment of diabetes. As such it is based on a composition which includes guar gum as a soluble fibre, that gum being said to have become the most effective soluble fibre for treatment of Type II diabetes. However, because of that consideration (essential to the earlier invention) the earlier bars and the process of producing them suffer from disadvantages associated with the gum ingredient. In particular, as is recognised in the introduction to the earlier disclosure, guar gums because of their viscosity characteristics can lead to the production of unsatisfactory bars.

As described and claimed in British Specification No. 1,356,370 a very low calorie dietary formulation for the treatment of obesity in man comprises:

(a) all the minerals required by man;

(b) proteinaceous material consisting of:

(i) a mixture of monomeric L-aminoacids, and/or

(ii) natural proteins, and/or

(iii) natural proteins reinforced with at least one monomeric L-aminoacid; and

(c) digestible carbohydrate; such that the smallest amount of the dietary formulation containing at